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EFFECTS OF SOCIAL PROXIMITY ON MULTIPLE AGGRESSIVE BEHAVIORS

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We systematically manipulated social proximity to examine its influence on multiple topographies of aggression. Aggression occurred at high levels during close-proximity sessions and at low levels during distant-proximity sessions even though social contact was presented continuously during both conditions. Topographies of aggression emerged sequentially across the close-proximity sessions, and all topographies were reduced to zero following extended sessions of this condition.

DESCRIPTORS: aggression, attention, social proximity, multiple topographies, response variability

Few studies have documented the extent to which problem behavior may occur during high levels of attention. For example, Taylor, Ekdahl, Romancyck, and Miller (1994) found that the problem behavior of 2 children occurred at high levels in situations involving the presentation of almost continuous "enthusiastic" attention. Oliver, Murphy, Crayton, and Corbett (1993) found that a particular form of problem behavior (mouth hitting) by a young girl with Rett syndrome occurred at high levels when noncontingent adult attention was provided 100% of the time. It seems likely that in these cases, the removal of social attention contingent on problem behavior had served to maintain the children's problem behaviors in the natural environment.

In the present study, we wanted to extend the examination of attention by documenting the influence of a variable often correlated with social attention, namely social proximity. In this preliminary study, the effects of social proximity on a child's aggression were examined by systematically varying the distance between the experimenter and the child while holding the level of attention constant.

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METHOD

Participant, Setting, Sessions, and Target Behaviors

Alex, a 14-year-old girl who had been diagnosed with mental retardation, participated in the study. Alex was fully mobile, could wash and dress herself, and could speak in sentences with her mother, although she rarely spoke to others. She had been referred to an inpatient treatment unit for assessment and treatment of aggression that was interfering with her educational progress. All procedures were carried out in a therapy room by a trained female behavioral nurse.

The assessment was conducted across 5 days with no more than six conditions conducted each day. All conditions lasted approximately 5 min and were presented using an alternating treatments design. Observations were recorded directly from videotape onto an Olivetti Quaderno palm-held computer with software allowing several behaviors to be simultaneously recorded in real time (Repp, Harman, Felce, Van Acker, & Karsh, 1989). Following a review of the videotapes, 11 different participant responses were defined (see Table 1). Responses were recorded as durations (i.e., the observer was required to press a specific key on the keyboard to indicate its onset and again to in-

dicate its offset). The percentage of time during which each behavior occurred was calculated by dividing the number of seconds of occurrence of each target behavior by the total number of seconds in each session and multiplying by 100%. During 25% of the sessions, an independent observer also collected data, spaced evenly across sessions. Agreement was calculated on a 1-s interval-by-interval basis using Cohen's kappa (see Hartman, 1977). The mean level of agreement across topographies of aggression was .84 (range, .61 to 1.0).

Table 1
Response Definitions

Topography	Definition
Hair flicking	Movement of the head from side to side so as to direct hair into the therapist's face
Biting	Actual or attempted closure of upper and lower teeth on any part of the therapist's body
Kicking	Actual or attempted forceful contact of the foot against the therapist's body
Scratching	Actual or attempted contact with the fingernails against the therapist's skin
Vocalizations	Swearing or forceful verbal directions towards the therapist
Inappropriate touching	Actual or attempted contact with the therapist's breasts or genital area
Pushing	Forceful movement of the therapist using the hands or shoulders
Hitting	Actual or attempted forceful contact of the hands against the therapist's body
Spitting	Actual or attempted expulsion of saliva in the direction of the therapist
Grabbing	Actual or attempted grasping of the hands on the upper part of the therapist's clothing
Hair pulling	Closure of fingers on the therapist's hair with a tugging motion

Close-Proximity and Distant-Proximity Conditions

In the first phase of the study, two conditions were devised in which the distance between Alex and the therapist was systematically manipulated while the level of social attention was held constant. In the close-proximity condition, the therapist remained close to Alex (i.e., within 0.67 m) at all times and delivered social attention continuously throughout the session using phrases such as "I like what you're wearing today." If Alex moved away from the therapist at any time, the therapist followed Alex around the observation room to maintain close proximity. If Alex's hands became entangled within the therapist's hair or clothing, the therapist was instructed to disengage herself without moving away. If the therapist felt unable to continue with the procedure due to high levels of aggression from Alex, she was instructed to terminate the procedure. None of the sessions were terminated prematurely.

In the distant-proximity condition, the therapist sat down in one of the chairs approximately 2 m away from Alex and delivered social attention continuously throughout each session in the same manner as before. Alex could easily reach the therapist at all times during this condition. At no time during the assessment were scheduled consequences provided for Alex's aggression.

In the second phase of the study, three extended sessions of the close-proximity condition were conducted, each lasting 45, 35, and 45 min. These sessions were conducted to ascertain whether Alex's aggression would be extinguished following prolonged exposure to social proximity and attention.

The therapist engaged in social attention for 65.69% (range, 53.05% to 81.12%) and 69.38% (range, 63.35% to 76.35%) of the time in the close-proximity and distant-proximity conditions, respectively. Although it was not always possible for the therapist

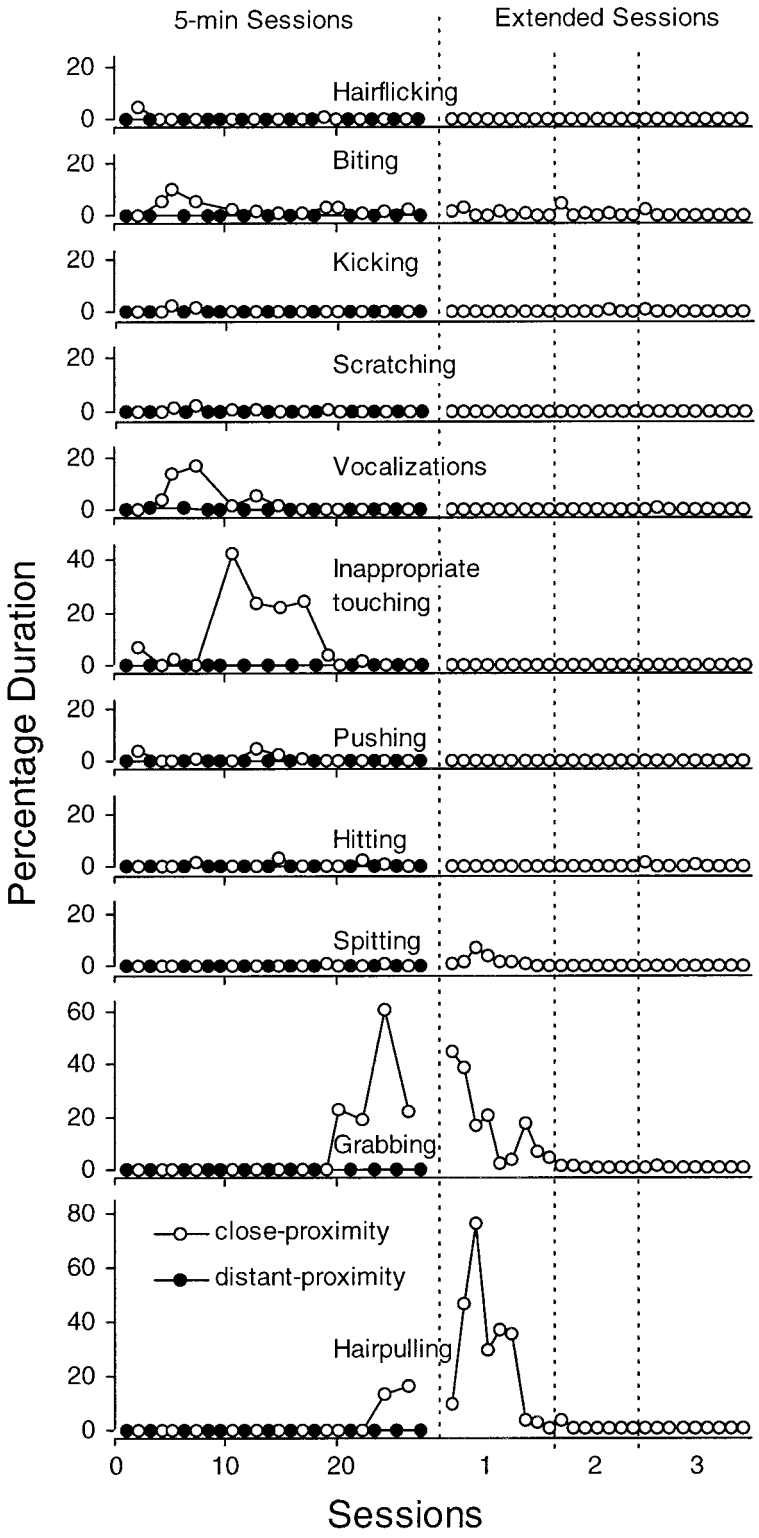

Figure 1. The percentage duration of Alex's behaviors in the close-proximity and distant-proximity conditions.

to ignore Alex's aggression during the close-proximity sessions, proximity was maintained 100% of the time.

RESULTS AND DISCUSSION

Figure 1 shows the percentage duration of each form of aggression observed during both phases of the study. In the first phase, the mean percentage duration of aggression in the close-proximity condition (M = 29.04%; range, 8.00% to 72.26%) was higher than the mean percentage duration of aggression in the distant-proximity condition (M = 0.15%; range, 0% to 0.98%). These results suggested that Alex's aggression was evoked by the proximity of others and not simply by social contact per se.

Figure 1 shows that there appeared to be some temporal organization to Alex's responses across sessions. For example, prior to the emergence of grabbing and hair pulling (at Sessions 10 and 12, respectively), Alex engaged in a variety of other forms of aggression, each of which appeared to emerge over several sessions. In the first close-proximity session, for example, hair flicking, inappropriate touching, and pushing all occurred. In the second close-proximity session, these behaviors appeared to be replaced by biting and vocalizations. In the third close-proximity session, biting and vocalizations were then joined by kicking, inappropriate touching, and scratching. All of these behaviors subsequently decreased after several more sessions of close proximity, to be replaced by grabbing and hair pulling.

The data from the second phase (with data plotted in 5-min bins) show the percentage duration of topographies of aggression observed during the three longer sessions of close proximity. Aggression occurred 42.39%, 3.10%, and 0.93% of the time in each of the three extended sessions. Interestingly, during the first extended session, biting, grabbing, hair pulling, and spitting all occurred and then eventually decreased to low levels. All behaviors had decreased to zero by the end of the third extended session, whereupon Alex sat down on the floor and engaged in appropriate play with the therapist.

The pattern of responding across both phases of the study appears to show the successive emergence and reduction of behavioral topographies. Given these results, it seems likely that social proximity constituted an establishing operation of aversive stimulation, evoking behaviors that in the past had led to the removal of social proximity. This hypothesis is further supported by the fact that Alex's aggression was extinguished following prolonged exposure to social proximity. It is likely that the successive emergence and extinction of different topographies of aggression may have been the result of extinction-induced response variability. The responses that appeared in the early sessions (e.g., hair flicking, vocalizations, inappropriate touching, and pushing) may, in the past, have been less aversive to others than the grabbing and hair pulling that prevailed during the later sessions.

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